

Gearing Up for 2017

Dan Gilrein, Extension Entomologist, Cornell Cooperative Extension of Suffolk County

State of the Woods

NYS DEC's Forest Health Highlights for 2016 noted some important weather- and insect-related impacts over the past year. Of 12M acres surveyed by air, about 240,000 acres showed damage, including 40,000 from gypsy moth defoliation and a 'significant portion of the remainder' affected by drought, especially conifers. Nearly a quarter of NY suffered from severe drought in 2016. Much of New England also had the same, with some areas also suffering additional defoliation from winter moth and forest tent caterpillar. In addition, about 850 acres in Ontario County were defoliated possibly due to Bruce spanworm. Southern pine beetle remains a problem on Long Island, with around 50K acres infested. SPB has also been detected in traps around the lower Hudson Valley in 2015 & 2016, though not yet in trees. Following surveys, the area in NY affected by emerald ash borer doubled in 2016. Hemlock woolly adelgid was found for the first time near Lake Ontario and hemlock decline and mortality, in areas where the insect is established longest in the Catskills and Finger Lakes, is most severe. In some areas elongate hemlock scale infestations are complicating the picture. Balsam woolly adelgid is being seen more often on balsam fir in the Adirondacks in recent years, some areas showing heavy mortality. Oak wilt was found in fourteen oaks on Long Island, as well as one tree in Brooklyn and Canandaigua. Delimiting surveys are expected to continue this year. Beech bark disease, Dutch elm disease and butternut canker are all common around NY now. (Thanks for Jason Denham, NYS DEC Forest Health, for updates.)

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Although NYS DEC reports total NY acreage affected by gypsy moth down 60% from the 2015 total, it is clear some areas, particularly on Long Island, can expect another year, judging from egg mass reports. Two insect pathogens, a virus and a fungus (Entomophaga), both help reduce GM populations, but the virus requires much higher caterpillar densities to work well. Some Entomophaga was seen last year but it seems to 'kick in' after substantial defoliation has already occurred, so arborists and nursery growers should still survey for egg masses and watch for caterpillars hatching late this month. If using Bt (DiPel Pro, Xentari, Javelin, Foray, etc.), small larvae (below 1") are more susceptible and applications should be made when caterpillars are actively feeding (warm weather) for best results. Conserve/Entrust can be used for caterpillars at any stage, active through contact and ingestion, and like Bt Provaunt (for landscapes) is more resistant to wash-off when dry and may be a good choice where light rain is expected after application. Several other foliar and injection options are listed in the Guidelines.

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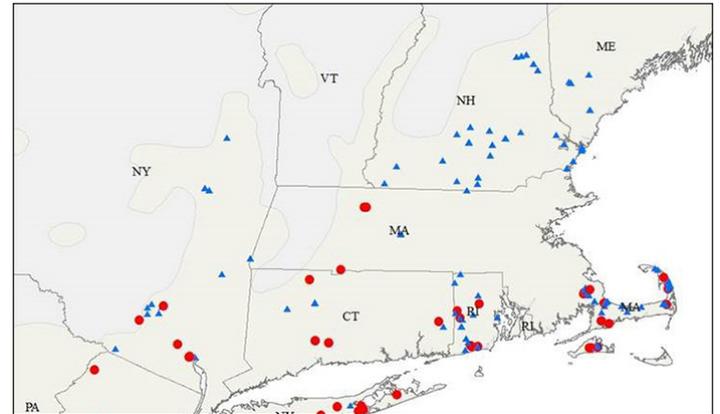
Emerald Ash Borer

The current EAB map showing quarantine boundaries/restricted zones is posted at www.dec.ny.gov/docs/lands_forests_pdf/eabquarmaps.pdf. Based on comments to me from Mark Whitmore, Forest Entomologist with Cornell's Department of Natural Resources, it seems outside of professional audiences, there needs to be greater public awareness that insecticides can indeed be effective

for controlling EAB. It is important that homeowners and public officials know that ash trees in infested areas are unlikely to survive unless protected. More information on control options for NY can be found in the Cornell Guidelines. The publication Insecticide Options for Protecting Ash Trees at <http://www.emeraldashborer.info> is the best source for choosing among strategies, which vary depending upon EAB and ash populations; tree value, location and size; proximity to infestations; etc.

Southern Pine Beetle

Kevin Dodds, Forest Entomologist, USDA Forest Service, provided a map showing southern pine beetle detects in traps over the past two years. SPB is well-established and causing heavy tree losses in NJ and Long Island; infested trees have also been seen in CT. Beetles have been detected in traps in areas north. It is hard to predict whether landscape trees will be threatened again this year; the high forest populations in western Suffolk in late 2014–2015 may have been the source for beetles attacking landscape pines and Norway spruces in the region.



Map showing southern pine beetle trap detects 2015–2016 in the Northeast US, generated by Kevin Dodds, USDA FS Forest Entomologist



Southern pine beetle gallery in pitch pine © Dan Gilrein

Hemlock Woolly Adelgid

Mark Whitmore also reports hemlock woolly adelgid winter survival appears to be high due to mild conditions. A map showing the distribution as of 3/2016 can be found at www.dec.ny.gov/animals/86382.html. This pest almost invariably kills Canada and Carolina hemlocks; valued trees need to be protected. A dormant-stage horticultural oil can work well where coverage is good. Several other options are also labeled. Avoid use of nitrogen fertilizers around infested trees. To detect HWA, watch for the white egg masses at the bases of needles, which are especially visible this time of year, and any signs of decline or defoliation.



Hemlock woolly adelgid egg masses © Dan Gilrein

Binoculars can help in surveying foliage high in the tree.

Maple Leafcutter

Maple leafcutter was again problem in the North Country last year. Defoliation had been seen in St. Lawrence County in 2015. Sugarbush managers are concerned about impact on sap production that can occur after several consecutive years of defoliation. Though feeding damage tends to be lower in the canopy, there is some evidence that Bt aerial application can provide control despite infestations generally being lower in the canopy. However, a 2(ee) label would be needed since none of the commercial Bt products include this as a labeled pest. Sevin is labeled but not where maples are used for sap production and would likely have larger impact on non-target species. Other products can also be used on individual landscape specimens.



Maple leafcutter damage and larva (inset) © D. D. O'Brien

Norway Spruce Shoot Gall Midge

'Norway spruce shoot gall midge' (*Piceacecis abietiperda*) is a relatively new European pest brought to our attention more than 10 years ago by arborists in East Hampton, NY. Besides Long Island, there has been some heavy damage to spruces in the Hudson Valley, with reports of infestations in MA and CT. Infested Norway spruces show dead terminals (last year's growth) and distortion with small blister-like galls beneath the previous season's bud scales or occasionally elsewhere on twigs. Needlecast from *Rhizosphaera* can compound the symptoms and we're not sure whether there is an association. Lorraine Graney, formerly with Bartlett Tree Experts, worked with USDA ARS gall midge specialist Dr. Ray Gagné to

identify and describe it. Details with excellent photos can be found in their publication at www.bioone.org/toc/went/116/4. We know few details of this insect's biology but adults are thought to emerge in April with one generation per year. Norway spruce seems to be the primary host; there is one report from Colorado blue spruce. We have no information on efficacy of controls. A few treatments labeled for gall midges might be timed for when adults are active. Infestations sometimes seem lower in areas with good air circulation.



Norway spruce shoot gall midge damage © Nick Brazee, UMass

Oak Wilt

With oak wilt reported now in several areas around the state (www.dec.ny.gov/docs/lands_forests_pdf/owstatewidemap.pdf), New York State Department of Environmental Conservation (DEC) today announced that Oak Wilt Protective Zones have been established in the Brooklyn neighborhood of Greenwood Heights, Kings County; the Town of Canandaigua, Ontario County; and all of Suffolk County. These zones are the first line of defense in preventing the spread of oak wilt, a deadly tree disease. Movement of oak trees (except as certified) and firewood out of the protective zones (see map) is prohibited. More details are at www.dec.ny.gov/docs/lands_forests_pdf/owpzfs.pdf. DEC is also recommending no oaks be pruned spring to fall, or if they must be to apply a wound dressing. Oak wilt is thought to be transmitted by certain sap and possibly bark beetles, attracted to spore mats that break through cracks in bark. The beetles pick up the spores, then move to fresh pruning (or other) wounds. The fungus causing oak wilt can also be spread through root grafts.

White Pine Weevil

White pine weevil (WPW) was a problem in some areas around NY last year. It is common landscape, nursery and forest plantation pest of pines, spruces and occasionally Douglas fir (list of preferred trees at www.na.fs.fed.us/spfo/pubs/fidls/wp_weevil/weevil.htm), usually killing the leaders on small trees. I have seen oriental and Serbian spruces attacked, as well as Montgomery spruce (a Colorado blue cultivar) in nurseries. This can cause multiple leaders resulting in wood defects, reduced growth, and higher susceptibility to decay. Adults are becoming active in some areas now, as daytime temperatures reach 50°F. Leaders can be treated now with protectant insecticides (see Cornell Guidelines for options). Prune off and destroy dead leaders as they appear in early summer. Note to nursery growers on Lorsban: U.S. EPA recently announced no further restrictions for chlorpyrifos or changes to U.S. tolerances are planned for now, so growers will continue to have this available for labeled pests like WPW. EPA will be updating and revising the chlorpyrifos human health assessment, so changes may yet occur after those are completed in late 2022.